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09/710,646

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EXAMINER

BRUCKART, BENJAMIN R

ART UNIT

PAPER NUMBER

2155

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/710,646	Applicant(s) FAKHOURI ET AL.	
	Examiner Benjamin R. Bruckart	Art Unit 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claims 21-26 are pending in this Office Action.

Claims 1, 9, and 17 are cancelled.

The objection is withdrawn in light of applicant's amendments.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 21, 22, 25 and 26 are rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21, 25 and 26 recite the term 'them' on line 2 in "for bringing them on-line." The examiner cannot ascertain from the limitation language whether them is the clusters or network resources. The examiner has similar objections to the pronouns 'their' in lines 3, 5, and 11 of each claim.

The claims also recite the limitations "static or an occasionally changing..." which is confusing at best. Static is defined as not changing. Further the term 'occasionally' is relative and unclear what it really means.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph for having lack of antecedent basis and for failing to particular point out and distinctly claim the subject matter which

applicant regards as the invention. The term 'reliable' is used to described messaging for selected communications. It is not however understood how applicant perceives reliable. TCP/IP is reliable communication and is interpreted to be the communications protocol for the cluster communication.

Claim 22 is rejected as having lack of antecedent basis because in the last limitation of the claim recites "the leader resource."

Response to Arguments

Applicant's arguments filed in the amendment filed 5/02/06, are moot in view of new grounds of rejection. The reasons are set forth below.

Applicant's invention as claimed:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21-24, 25 and 26 are rejected under 102(e) as being anticipated by U.S. Patent No. 6,178,529 by Short et al.

Regarding claim 21, a method for building globally optimal configurations of one or more clusters of networked resources (Short: col. 5, lines 46- col. 6, line 9; col. 7, lines 38-54), for bringing them on-line in a systematic manner (Short: col. 5, lines 46-53), given a set of resources, resource groups, their current states, dependences, preferences, constraints, events, and policies, including concurrently discovered resources and resource groups, availability and unavailability of the resources and resource groups for being able to go on-line (Short: col. 5, lines 23-53), determining their dynamic dependencies and configuration information such as load serving capacity and quality of service (Short: col. 1, lines 31-37; col. 5, lines 60-65), cluster policies and changes thereof as applied to the network of resources and resource groups, at cluster initialization and dynamically during cluster operation (Short: col. 5, lines 11-22), for supporting a seamless startup and shutdown of resources and resource clusters according to the current policies, multiple demands on the cluster resources, current status of the cluster resources, system events, and their effects on the priority of the services provided by the cluster (Short: col. 5, lines 46-52; col. 6, lines 28-34), separating the said dependencies, constraints, events, and policies into a static or occasionally changing rules and objectives group (Short: col. 5, lines 46- col. 6, line 9) and a dynamically changing cluster events and policies group (Short: col. 6, lines 28-45), and separating the networked resources, resource groups, cluster configurations into static and dynamically changing groups (Short: col. 5, lines 46- col. 6, line 9) and taking a snapshot of the said groups only when needed to build the said optimal cluster configurations (Short: col. 5, lines 22-36).

Claims 25 and 26 are rejected under the same grounds of above as being substantially similar.

Regarding claim 22, a method according to Claim 21, comprising the further steps of: continuously monitoring cluster-wide events and comparing the current cluster state with a desired state (Short: col. 5, lines 23-40), and whenever there is a discrepancy between said current and desired states, realigning the cluster resources, including the step of issuing commands to the cluster resources to bring about the realigning (Short: col. 5, lines 23-45);
providing a group of cluster services, including:

- i) a persistent cluster registry to store and retrieve the configuration of the cluster resources (Short: col. 5, lines 23-45; database manager),
- ii) topology services for detecting node and communication adapter failures (Short: col. 5, line 66- col. 6, line 10; resource monitor),
- iii) reliable messaging for selected communications between a central resource and all other resources (Short: col. 4, lines 55- col. 5, line 10), and
- iv) a group services facility for electing one of the resources as the central resource at cluster initialization and whenever an existing central resource is unable to provide the services thereof (Short: col. 4, lines 32-53; col. 6, line 66- col. 7, line 12),

delivering events to a coordinator, said coordinator combining said events with said rules and objectives to arrive at a response to said events (Short: col. 6, lines 10-20; col. 5, lines 46-65; the coordinator=resource manager);

translating the response into commands to the resources each of the commands containing all the state needed for execution of the command by a manager of one of the resources, including the step of issuing the commands in a partial order given by said dependencies (Short: col. 5, lines 46-65); and

not sending out a new command until the leader resource is aware of a positive outcome of the commands that the execution of said new command depends on (Short: col. 5, lines 11-22; col. 7, lines 38-53; membership verification).

Regarding claim 23, a method according to Claim 22, wherein:

said coordinator ensures that globally-optimal solutions get deployed in the cluster in response to events in the cluster (Short: col. 5, lines 23- col. 6, line 10); and

all events and command feedback are directed to said coordinator (Short: col. 5, lines 66- col. 6, line 10).

Regarding claim 24, a method according to Claim 21, comprising the further steps of:

providing an optimizer module for computing a globally optimal solution based on said constraints and to current state of the cluster (Short: col. 5, lines 23-65);

using the optimizer for re-computing the globally optimal solution whenever an objective value of a deployed solution is below a certain value as compared to a proposed solution, including the step of feeding back to the optimizer an artificially generated event that forces the optimizer to re-compute the global solution (Short: col. 6, lines 28-45; col. 7, lines 55- col. 8, line 11);

providing the optimizer with a snapshot of the current state of the cluster (Short: col. 5, lines 23-45);

wherein the step of using the optimizer for re-computing the globally optimal solution includes the step of said optimizer, given said snapshot, proposing an approximately optimal cluster configuration that takes into account said current state of the cluster and long-term objectives defined for the cluster (Short: col. 5, lines 23- col. 6, line 10; desired configuration).

REMARKS

Applicant has canceled the three previously pending claims and added six new claims with similar subject matter in the independent claims.

The Applicant Argues:

The Short reference does not anticipate the claims.

In response, the examiner respectfully submits:

The Short reference does teach the claimed limitations. The examiner believes the claim limitations are broader than argued and that the claimed limitations are not concise or clear because of the language is a lengthy run on sentence without clear subjects and verbs.

Short does teach separating dependencies, constraints, events and policies into a static or changing rules and objectives group because Short teaches using the manager to manage dependencies and resources and resources needed (col. 5, lines 46- col. 6, line 9). Short teaches the dynamically changing cluster events and policies group as the membership and status (Short: col. 5, lines 10-22). The claims are broad and require narrowing. Applicant argues type and quality are features of the static resources but they are not explicitly stated in the claims. The examiner believes configuring individual devices is substantially similar to configuring clusters of resources if the devices are clustered resources or resources in a cluster.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R. Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 9:00-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin R Bruckart
Examiner
Art Unit 2155

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SALEH NAJJAR
SUPERVISORY PATENT EXAMINER